

Application No. (Attorney Docket No.36068)

Inventors: Wase, Lars and Forsberg, Mats

Title: A MILKING DEVICE

Preliminary Amendment

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A milking device including:

a milk-transporting conduit comprising at least one teat cup (151), arranged to be attached to a teat of an animal to be milked, and a milk hose (152) to permit a transportation of milk from the teat to a milk-collecting member (101);

a pump device (110), connected to the milk-transporting conduit and arranged to produce a vacuum pressure [(P₁)] for the transportation of milk by sucking milk from the teat to the milk-collecting member (101) via the milk-transporting conduit; and

a gas supply system, arranged to support the transportation of milk by supplying a gas at an atmospheric pressure level [(P_{atm})], the gas supply system including

a gas conditioning sub-system (120) arranged to receive an unconditioned gas and in response thereto produce a conditioned gas fulfilling at least one quality criterion, and

a gas inlet member (131) arranged to introduce the conditioned gas into the milk-transporting conduit and thus permitting the transportation of milk,

~~characterized in that wherein~~ the gas conditioning sub-system(120) is arranged to supply the conditioned gas to at least one auxiliary gas consuming point (102, 141, 142, 143, 144, 145, 146) of the milking device outside the milk-transporting conduit.

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2. (Currently amended) A milking device according to claim 1, ~~characterized in that wherein~~ the at least one auxiliary gas consuming point includes a constant-pressure valve (102) arranged between the pump device (110) and the milk collecting member (101) to maintain a desired pressure level of the vacuum pressure [(P₁)].

3. (Currently amended) A milking device according to claim 1, wherein any one of the claims 1 or 2, characterized in that the at least one auxiliary gas consuming point includes a pneumatic member (144) arranged to effect a working operation during use of the milking device.

4. (Currently amended) A milking device according to claim 3, ~~characterized in that wherein~~ the pneumatic member (144) is adapted to automatically remove a teat cup cluster from the teat after completion of the milking, the teat cup cluster containing the at least one teat cup (151).

5. (Currently amended) A milking device according to claim 1, wherein any one of the preceding claims, characterized in that the at least one auxiliary gas consuming point includes a compressor (146) adapted to receive the conditioned gas and produce a conditioned gas at an elevated pressure level [(P₂)] exceeding the atmospheric pressure level [(P_{atm})].

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6. (Currently amended) A milking device according to claim 5, characterized in that wherein the at least one auxiliary gas consuming point includes at least one secondary gas consuming point (141, 142, 143) in addition to the compressor (146), the at least one secondary gas consuming point being connected to the compressor (146) such that it receives the conditioned gas at a pressure level exceeding the atmospheric pressure level [(P_{atm})].

7. (Currently amended) A milking device according to any one of the claim 6, characterized in that wherein the at least one secondary gas consuming point includes a first cabinet (141) containing electronic equipment, wherein the conditioned gas at a pressure level exceeding the atmospheric pressure level [(P_{atm})] ventilates one or more components inside the first cabinet (141).

8. (Currently amended) A milking device according to claims 6 or 7, characterized in that 7, wherein the at least one secondary gas consuming point includes a second cabinet (142) containing electronic equipment, wherein the conditioned gas at a pressure level exceeding the atmospheric pressure level [(P_{atm})] pressurizes an interior volume of the second cabinet (142).

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9. (Currently amended) A milking device according to ~~any one of the claims 6 - 8~~, characterized in that claim 6, wherein the at least one secondary gas consuming point includes a cleaning member (143) adapted to clean a sensor (143a) by blowing the conditioned gas at a pressure level exceeding the atmospheric pressure level [(P_{atm})] towards the sensor (143a).

10. (Currently amended) A milking device according to ~~any one of the preceding claims~~, characterized in that claim 1, wherein the at least one quality criterion relates to the temperature of the conditioned gas, and the gas conditioning sub-system (120) includes a heating member (122) adapted to heat the unconditioned gas to a particular minimum temperature.

11. (Currently amended) A milking device according to ~~any one of the preceding claims~~, characterized in that claim 1, wherein the at least one quality criterion relates to the temperature of the conditioned gas, and the gas conditioning sub-system (120) includes a cooling member (123) adapted to cool the unconditioned gas to a particular maximum temperature.

12. (Currently amended) A milking device according to ~~any one of the preceding claims~~, characterized in that claim 1, wherein the at least one quality criterion relates to the purity of the conditioned gas, and the gas conditioning sub-system (120) includes a filter (124).

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13. (Currently amended) A milking device according to claim 12, characterized in that wherein the filter (124) is arranged to permit unconditioned gas in the form of air to be sucked in from outside a building in which the animal to be milked is located.

14. (Currently amended) A milking device according to claim 12, characterized in that wherein the filter (124) is arranged to permit unconditioned gas in the form of air to be sucked in from inside a portion of a building in which the animal to be milked is located, said portion containing an atmosphere which is at least relatively substantially free from ammonia.

15. (Currently amended) A milking device according to ~~any one of the claims 1-11~~, characterized in that claim 1, wherein the at least one quality criterion relates to the composition of the conditioned gas, and the gas, conditioning sub-system (120) includes:

a pressurized gas container (224a) arranged to feed gas of a particular composition into the gas supply system, and

a pressure regulator (121) arranged to receive gas from the gas container (224a) and in response thereto deliver gas at the atmospheric pressure level [(P_{atm})] to the gas supply system.

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16. (New) A milking device according to claim 2, wherein the at least one auxiliary gas consuming point includes a compressor adapted to receive the conditioned gas and produce a conditioned gas at an elevated pressure level exceeding the atmospheric pressure level.
17. (New) A milking device according to claim 8, including a sensor, and wherein the at least one secondary gas consuming point includes a cleaning member adapted to clean the sensor by blowing the conditioned as at a member adapted to clean the sensor by blowing the conditioned gas at a pressure level exceeding the atmospheric pressure level towards the sensor.
18. (New) A milking devices according to claim 5, wherein the at least one quality criterion relates to the temperature of the conditioned gas, and the gas conditioning sub-system includes a heating member adapted to heat the unconditioned gas to a particular minimum temperature.
19. (New) A milking device according to claim 5, wherein the at least one quality criterion relates to the temperature of the conditioned gas, and the gas conditioning sub-system includes a cooling member adapted to cool the unconditioned gas to a particular maximum temperature.
20. (New) A milking device according to claim 5, wherein the at least one quality criterion relates to the purity of the conditioned gas, and the gas conditioning sub-system includes a filter.

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Remarks

Applicant submits herewith this preliminary amendment to present the abstract of the invention on a separate page and in U.S. format, and to conform the claims to U.S. practice in accordance with Rule 1.72. New claims 16-20 have been added in view of the deletion of the multiple dependencies from the amended claims. It is believed that no substantive amendments have been made to the application. Applicant has also incorporated by reference International Application PCT/SE2003/001449, filed September 16, 2003 claiming priority from Swedish Application No. 0203197-9 filed October 30, 2002 (also incorporated by reference herein). A copy of that published application, with the favorable International Search Report, is submitted herewith. The incorporation by reference is also set forth in the accompanying Transmittal -- see MPEP 201.13. Accordingly, applicant respectfully requests that this application receive early and favorable consideration.

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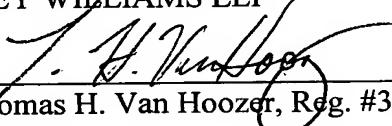
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Should the examiner have any questions concerning this application which may be resolved by a telephone conference, he is encouraged to contact the undersigned at 1-800-445-3460. Any additional fees necessitated by this submission may be charged to deposit account 19-0522.

Respectfully submitted,

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